U.S. Coral Reef Monitoring Project Survey

Part 1. Project Summary

Survey administered by: ASCH
Project ID:
Date Administered (dd-mo-yy): 18-AUG-99

Project title: Delivery, Deposition, and the Effects of Land-based Sediments on St. John

Principal investigators

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Keywords (provide several keywords that describe project data):

WATERSHED
SEDIMENTATION
LAND-SEA INTERRACTIONS
TERRIGENOUS SEDIMENTS
CURRENT PATTERNS
CORAL CONDITION
FISH POPULATIONS
ST. JOHN

Project Summary:

This project investigates the linkage between sediment delivery and marine ecosystem health. Its goal is to provide government agencies information to assist them in the management of USVI watersheds. The project compares a reef exposed to run-off from a highly developed watershed with a reef located in the Virgin Islands Biological Preserve, which has a more pristine watershed.

Spatial Coverage of Database

Spatial Coverage (briefly describe geographic extent of project):

This project is located on the south shore of St. John.

Geographic Extent (Bounding rectangle in decimal degrees);

North: 18° 19.937 N West: 64° 56.67 W
South: 18° 19.029 N East: 64° 45.725 W

Are data aggregated into geographic units: [x] yes [ ] no
Are data available in disaggregated form: [ ] yes [ ] no

How was spatial accuracy determined:

[ ] NOAA Nautical Chart [ ] USGS Quad [ ] Loran [ ] County Road Map
[ ] Survey [x] GPS [ ] Other_____

Temporal Characteristics of Database

Temporal characteristics (brief narrative):

Samples will be taken monthly for a period of 1 year, beginning in June 1999 and ending in June 2000.

Period of Record:
Begin (d/mo/yr): June 1999 End (d/mo/yr): June 2000

Sampling is: [x] Ongoing [ ] Planned [ ] Historic

Frequency of Sampling:
[ ] Hourly [ ] Daily [ ]Weekly [x] Monthly [ ] Annually [ ] Other_____

Sampling Interval:
[x] Fixed [ ] Intermittent

How is sampling recorded?
[ ] Automated [x] Non-automated

Data Parameters:

Specific Constituents/Parameters Sampled (include units):

CORAL HEADS GDREATER THAN 25 CM IN DIAMETER
PERCENT OF LIVING REEF TISSUE, RECENTLY DEAD TISSUE, AND OLD DEAD TISSUE
CORAL COVER
ALGAE DENSITY AND COMPOSITION
RECRUITMENT
SEDIMENTATION
FISH DENSITY (#/square meter)
FISH DIVERSITY
WATER CLARITY
TURBIDITY
TOTAL SUSPENDED SOLIDS

Methodology:

Provide a short description about how monitoring data is gathered/acquired:

This project uses the AGRRA protocol. In this protocol, visual diving surveys are conducting in which the diver records data parameters on underwater paper and uses transect tapes.

On what basis were sites selected?

Fish Bay was selected as a site because it is located in a highly developed area. Lameshur Bay serves as a control, since it is located in a less developed area.

How are samples processed, stored, and archived in the field?

Sediment and water samples were collected. For the water samples, a secchi disk was used to measure water clarity. The water turbidity was also measured in the field. The sediment samples and the total suspended solids in the water samples were analyzed in the lab.

How are samples processed, stored, and archived in the laboratory?

The total suspended solids in the water samples were analyzed using a fine siv. The filter of the siv was weighed before and after the sampled was processed. The sediment samples were dried and run through a series of sivs. Measurements were taken of the proportion of the sediment that was caught in each siv. The objective of this process was to discover what percentage of the sediment is from land-based origin.

What methods were used for sample analysis and quality assurance?

[x**] Data quality analysis**

After the data was entered into the computer, it was compared with the original field notes in order to guarantee its accuracy.

[x**] Chemical analysis**

Usually a 1-liter sample of water was collected from each site. Every 3 months, a 2 liter sample was collected instead. This serves to increase the accuracy of the measurements of water turbidity and total suspended solids. To increase the accuracy of data gathered from the processing of the water and sediment samples, 2 samples were taken, each from a different area in each site.

Describe any assumptions in assembling/acquiring monitoring data:

Describe the primary limitations with monitoring data:

Database Characteristics:

Format:

[x] Digital [ ] Map
[x] Hardcopy (reports, data sheets, tables) [ ]Other_____

Status (check one):

[x] Database Available/Being Distributed [ ] Portions of Database Available
[ ] Data Not Available [ ]Other_____

Predominant Data Type:

[x] Numeric [ ] Qualitative

How is data stored (hardware & software):

486 Dell Computer, Microsoft Excel

Data Structure:

[x] Discrete Points (sampling site) [x] Line/transect (e.g., shoreline, beach)
[ ] Polygon (watershed)

Data Completeness (check one):
[ ] Data clean [x] Data need minor work [ ] Data need major work [ ] Other_____

Data Maintenance (check one):
[ ] No maintenance [x] Intermittent maintenance [ ]Periodic maintenance (fixed intervals)
[ ] Continuous maintenance [ ] Other_____

Are the following elements in this database available for each sampling location (check all that apply)?

[x] Station Location (lat/long coordinates of site or areal unit)
[x] Frequency of Sampling (by station location)
[x] Constituents/Parameters Sampled (by station location)
[x] Period of Record

Use and Users:

How is data used?

[x] Research

[ ] Monitoring

[x] Planning

[x] Management

[ ] Regulatory

Users (identify specific institutions):

[x] Federal Government: USGS—Water Resource Institute

[ ] State Government

[x] Local Government: Department of Planning and Natural Resources (USVI)

[ ] Regional Entities

[ ] Academic

Data Availability:

On-line (describe how to access, i.e., bbs, Telnet, world wide web):

No

Off-line: (describe how to access):

Contact Richard Nemeth. He can fax or sent data via a floppy disk.

Are costs associated with requests? [ ] yes [x] no
If yes, please explain:

Access constraints (describe briefly any constraints for accessing data set):

Not all the data has yet been entered into the computer.

Use constraints (describe briefly any constraints for using data set):

No